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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/802,471

Applicant(s)

NAGAI ET AL.

Examiner

ANGELA M. LIE

Art Unit

2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-089)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. Claims 1-14 and 17-19 remain rejected.
2. Claims 15 and 16 are canceled.
3. Claims 5-7 remain rejected under 35 U.S.C 101.

Objection to Specification

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: phrase "computer readable medium" has not been disclosed in the specification, hence a person of an ordinary skill in the art at the time the invention was made could not exclusively deduce what this medium encompasses.
5. The Examiner acknowledges that the Applicant attempted to overcome the above cited objection, however even after adding "stored on a computer readable medium", it is still not clear what such a medium encompasses. Furthermore, adding any subject matter into the body of the original specification introduces new matter, thus the Applicant is advised to rewrite affected claims in such a manner as to include only storage mediums/hardware recited in the original specification.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 5-7 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. In particular, it appears that the system disclosed in claims 5-7 could be only implemented as software, therefore the content of those claims could disclose software per se. The only element that might represent hardware element would be a "data processor", however from the original specification, "data processor" appears to be equivalent to "processing part" and according to page 7, lines 7 and 8 in the applicant's specification, the term "part" includes "hardware, firmware and/or software", thus the data processor could also be represented by software per se.

8. The Examiner acknowledges the Applicant's attempt to overcome rejection under 35 U.S.C. 101. However the Applicant bases her interpretation on "streamer" which is not part of the claim language. Even if the "streamer" would be recited in the body of the claims, based on the original disclosure streamer can be considered a data processing part according to page 2 second paragraph. Moreover, as mentioned in the previous office action, a "part" could include "hardware, software and/or firmware". Consequently, according to the original disclosure, the streamer could be interpreted as software per se. Similarly, it appears that there is no distinction between "data processor" and "processing part", thus both of those limitations could be interpreted as software per se.

9. In order to overcome this rejection, the Applicant is advised to incorporate hardware elements present in the original specification into the claim 5, so that the

system disclosed in claims 5-7 is a combination of software and hardware, hence considered statutory.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 1-10, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Aybay et al (US Patent No. 6,044,061), hereinafter referred to as Aybay.**

As to claims 1, 5, 8 and 18, Aybay discloses a method for processing a multiplicity of data update requests made by a customer (column 3, lines 13-15, wherein the requests taught by Aybay correspond to all requests submitted to a system for processing and that includes update requests (i.e. write)), the method comprising the steps of: grouping all of the data update requests which is followed by the updating of the corresponding data (i.e. execution of the requests) into a predetermined plurality of blocks for execution by a data processor (column 3, lines 58-67, wherein blocks correspond to channels, also shown in figure 9), the data update requests within each of the blocks and from one of the blocks to a next one of the blocks being arranged in an order that the data update requests need to be executed to yield a proper data result (column 3, lines 58-67, wherein the order is arranged according to the requests priority),

each of the blocks having approximately a same capacity for the data update requests (column 3, lines 10-19), the capacity corresponding to a number of the data update requests which the data processor is adapted to efficiently process in order before processing the data update requests in the next one of the blocks (Figure 9, wherein each register within the channels i.e. L0 to L3 stores a request, and column 3, lines 58-67 and column 4, lines 1-11) ; and the data processor processing the data update requests within the one block in the order, and then the data processor processing the data update requests within the next block in the order (column 3, lines 58-67 and column 4, lines 1-11, wherein requests are arranged according to their priority, and column 13, lines 1-15).

As to claims 2, 6 and 9, Aybay discloses a method wherein the order is an order in which the data update requests were made (column 3, lines 1-9, wherein if requests are provided by a user in sequence from highest to lowest priority then that is the order in which they are allocated in the channels/blocks).

As to claims 3, 7 and 10, Aybay discloses a method wherein the capacity corresponds to a number of the data update requests which the data processing unit is adapted to optimally process in order in the one block before processing the data update in the next one of the blocks (column 3, lines 58-67 and column 4, lines 1-11, wherein if there no interruption (i.e. no new high priority requests are arriving) then requests are processed from the highest to lowest priority (i.e. moving from channel 0 to channel N)).

As to claims 4 and 19, Aybay discloses a method wherein the data update requests within each of the blocks are arranged into the order by order information stored within or associated with the blocks (column 10, lines 15-18, wherein priority encoder has information necessary to decide the order of placed requests).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. **Claims 11, 12-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aybay et al (US Patent No. 6,044,061), hereinafter referred to as Aybay, in view of In re Harza, 274F.2d 669, 671, 124 USPQ 378, 380 (CCPA 1960).**

As to claim 11, Aybay teaches a method for processing a multiplicity of data update requests made by a customer (column 3, lines 13-15, wherein the requests taught by Aybay correspond to all requests submitted to a system for processing and that includes update requests (i.e. write)), the method comprising the steps of: grouping all of the data update requests which is followed by the updating of the corresponding data (i.e. execution of the requests) into a predetermined plurality of blocks for execution by a data processor (column 3, lines 58-67, wherein blocks correspond to channels, also shown in figure 9), the data update requests within each of the blocks and from one of the blocks to a next one of the blocks being arranged in an order that

the data update requests need to be executed to yield a proper data result (column 3, lines 58-67, wherein the order is arranged according to the requests priority), each of the blocks having approximately a same capacity for the data update requests (column 3, lines 10-19), the capacity corresponding to a number of the data update requests which the data processor is adapted to efficiently process in order before processing the data update requests in the next one of the blocks (Figure 9, wherein each register within the channels i.e. L0 to L3 stores a request, and column 3, lines 58-67 and column 4, lines 1-11) ; and the data processor processing the data update requests within the one block in the order, and then the data processor processing the data update requests within the next block in the order (column 3, lines 58-67 and column 4, lines 1-11, wherein requests are arranged according to their priority, and column 13, lines 1-15). Aybay does not explicitly teach having multiple sets of blocks (i.e. duplicated), however it would have been obvious to one having ordinary skill in the art at the time the invention was made to duplicate request collecting step, since it has been held that mere duplication of the essential working steps (elements) involves only routine skill in the art (In re Harza, 124 USPQ 378, 380 (CCPA 1960)).

As to claim 12. Aybay teaches a method wherein the order is an order in which the data update requests were made (column 3, lines 1-9, wherein if requests are provided by a user in sequence from highest to lowest priority then that is the order in which they are allocated in the channels/blocks).

As to claim 13. Aybay teaches a method wherein the capacity corresponds to a number of the data update requests which the data processing unit is adapted to

optimally process in order in the one block before processing the data update in the next one of the blocks (column 3, lines 58-67 and column 4, lines 1-11, wherein if there no interruption (i.e. no new high priority requests are arriving) then requests are processed from the highest to lowest priority (i.e. moving from channel 0 to channel N)).

As to claim 14. Aybay teaches a method wherein the first data processing unit processes the first data update in parallel with the second data processing unit processing the second data update requests (column 4, lines 51-58).

As to claim 17. Aybay teaches a method wherein the grouping of all of the data update requests into the plurality of blocks is performed at a same time (column 3, lines 10-39, wherein the requests that are supplied at certain point of time are distributed to the appropriate channels according to their priority, in other words channel 0 (the highest priority) is filled out and then the lower priority blocks are utilized).

Pertinent Prior Art

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kirovski (US Publication No. 2004/0163989) discloses a system for enhancing software integrity comprising multiple atomic execution units/blocks for storing instructions (Figure 3A).

Response to Arguments

15. Applicant's arguments filed August 14, 2008 have been fully considered but they are not persuasive.

16. With respect to the Applicant's assertion on page 4, last paragraph, asserting that "Aybay is not directed to the processing of data update requests". The Examiner disagrees with this assertion. As even clearly recited in the Abstract of Aybay's Publication, "request registers [store] data cell transfer requests of different priorities", in other words a request for transfer of data from one location (i.e. cell) to another, can be reasonably considered an update request because some entries are just overwritten with data that has been transferred/copied to those entries. Furthermore, the data packets mentioned by the Applicant are indeed discussed in the Aybay's disclosure as well as their transfer between network devices, but this again just shows that the requests governing such a transfer (i.e. prioritizing sequence of transfers), can be equated to update requests which define which data has to be written to a specified location (for instance output queue). In other words, once the data packet is transferred it is written into the predetermined entry, so clearly one skilled in the art could easily recognize that the nature of those requests would be the same.

17. On the following page 5, the Applicant alleges that "there is no teaching or suggestion of grouping all of the data update requests which is followed by updating of the corresponding data into a predetermined plurality of blocks for execution by a data processor". The Examiner again disagrees with the Applicant's statement. As disclosed in column 1, lines 39-44, the requests dictate the output channel (i.e. target destination)

that will receive the queued packet, and then the input buffer is contacted to initiate transfer of the data (i.e. initiate update). Thus once the requests are collected in blocks, they are executed according to their priority.

18. Bridging to page 6, the Applicant asserts in the second paragraph that "Aybay is not concerned with data update requests or the execution of data update requests to yield a proper data result. Aybay merely discloses the processing of requests according to time, such as first in first out". Then in the last paragraph on the same page, the Applicant adds "Therefore, in Aybay, the requests are processed in order of priority. The requests are not arranged in an order in which the data update requests were made as claimed". The Examiner would like to note that those two citations contradict each other. In particular executing requests according to first in first out algorithm is equivalent with saying that the requests are processed in the order they were received/made. In other words, the first request that has been submitted to the queue would be the first processed request. Furthermore, in contrast to what the Applicant alleges, Aybay is concerned with proper order in which requests should be executed in order to lead to correct results. Otherwise allocation of requests in plural queues as well their scheduling would be completely unnecessary. Moreover in column 3, lines 58-67, Aybay explicitly teach that the requests have to be processed based on their priority (i.e. either low or high etc), and this is done to assure that the transfers of data are conducted in a correct order.

19. Lastly, on the page 7, the Applicant asserts that "the first group of data update requests are not being processed twice or merely duplicated, as suggested by the

Examiner". First of all, the Applicant failed to prove that indeed the first and second groupings are not duplicated steps. In other words, the Examiner does not argue that both groupings relate to the same set of requests, instead the Examiner notes that whether there is only one or two or even three independent groupings, it does not change the fact that the each grouping is performed in the same manner, thus there is nothing unique about subsequent grouping.

20. Claims 1-14 and 17-19 remain rejected.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

22. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANGELA M. LIE whose telephone number is (571)272-8445. The examiner can normally be reached on M-F.
24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
25. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela M Lie/
Examiner, Art Unit 2163

/don wong/

Supervisory Patent Examiner, Art Unit 2163